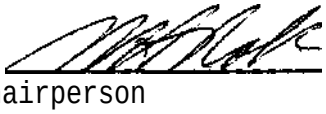
SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title;	MATHEMATICS
Code No.:	MTH 254-4
Program:	MECHANICAL/MECHANICAL DRAFTING TECHNICIANS
Semester:	
Date:	AUGUST 1983
Author:	W. MacQUARRIE

New: Revision

APPROVED 

Chairperson Date^ ^

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CALENDAR DESCRIPTION

MATHEMATICS	MTH 254-4
Course Name	Course Number

PHILOSOPHY/GOALS:

When the student has successfully completed this course, he will have demonstrated an acceptable ability to pass tests based upon the course topics as listed elsewhere. If, after completing the course, the student takes further courses (or employment) in which he is required to apply this material, he should then, through practice be able to develop a good command in this subject matter-

METHOD OF ASSESSMENT (GRADING METHOD):

The students will be assessed by written tests, including major periodic tests based upon large blocks of the subject matter and some unannounced short quizzes on current work, the latter being given at the discretion of the instructor. A final test on the whole course may also be included. A letter grade will be based upon a student's weighted average of all his test results. See also the mathematics departments annual publication "TO THE MATHEMATICS STUDENT" for further details. This publication is made available to the students early in each academic year.

TEXTBOOK{S):

Calculus with Analytilc Geometry - Person
Analytic Geometry - College Manuscript - (optional)

OBJECTIVES

The basic objective is for the student to develop an understanding of the methods studied, knowledge of the facts presented and an ability to use these In the solution of problems- For this purpose, exercises are assigned. Tests will reflect the sort of work contained in the assignments. The level of competency demanded is the level required to obtain an overallk passing average on the tests. The material to be covered is listed on the following page(s).

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Topic No.	Periods	Topic Description	Reference
1		Algebra Review	
		Special products, factoring exponents, radicals, formulas, simultaneous equations.	Manuscript available
	19	Solid Mensuration	Kern & Blan
		Mensuration of plane figures	Ch. 1
		Mensuration of solid figures, cubes, prisms, cylinders, pyramids, cones and spheres.	Ch. 3, 4, 6
		Applications involving the various figures in both metric (SI) and English units.	
	19	Analytic Geometry - Straight Line	Person - by paragraph
		Rectangular co-ordinates	
		Distance between points on rect. system.	1.1 - 1.10
		Slope	1.11 - 1.13
		Angle between two lines	1.17
		Straight line equations	3.1 - 3.5,
		Distance from a point to a line	3.7
		Reference #5 - Manuscript Ch. 1	Manuscript Ch. 3
	10	Analytic Geometry - Conic Sections Person	
		Introduction - section through a cone	7.10
		The circle - equations and graphs	
		- tangent to a circle	4.1 - 4.5
		The Parabola - equations & graphs	
		- applications	
		- reflector	5.1 - 5.5
		The Ellipse - equations & graphs	6.1 - 6.8
		General Second degree equations	7.1 - 7.7
		The definition of a tangent to a curve as the limited position of a secant etc.	Manuscript Ch. 8
		Parametric Equations	Manuscript Ch. 10
		Graphs & practical applications	

Topic No.	Periods	Topic Description	Reference
		Polar Co-ordinates Polar Co-ordinates system Graphs of equations in polar form Relationship between rectangular & polar co-ordinates	Manuscript Ch. 11
		Introduction to Differential Calculus Functional notation, limiting values, differentiation by delta method, applications.	Person **Ch. 9, 10, 11 12**